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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/589,338	06/07/2000	John G. Rohrbaugh	10003687-1	8717

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EXAMINER

TORRES, JOSEPH D

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 04/05/2004

19

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application N .

09/589,338

Applicant(s)

ROHRBAUGH ET AL.

Examiner

Joseph D. Torres

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-22 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 17 March 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 19 March 2004 have been fully considered but they are not persuasive.

The Applicant contends, "It should be noted, first of all, that the term 'filling' in the art of automatic test pattern generation (ATPG) has a particular meaning that is known to those skilled in the art. Filling is not the same thing as 'assigning,' 'specifying,' or 'generating' values for bits that were previously unspecified. To define these different terms, the following is given as background."

The Examiner disagrees and asserts first of all that the assertion is ridiculous. The claim language in question explicitly recites, "setting the values of a plurality of the unspecified bit positions using a non-random filling methodology" and is equivalent to the statement --assigning the values of a plurality of the unspecified bit positions using a non-random filling methodology--, --specifying the values of a plurality of the unspecified bit positions using a non-random filling methodology--, --filling the values of a plurality of the unspecified bit positions using a non-random filling methodology-- or --generating the values of a plurality of the unspecified bit positions using a non-random filling methodology--. Non-random filling is a non-random methodology for filling a group of bits, in this case, the unspecified bit positions, and in no way defines or restricts the unspecified bit positions. Furthermore, any deterministic method for "filling",

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“assigning”, “specifying” or “generating” unspecified bit positions is a non-random filling methodology. In particular, the Examiner asserts that a method for filling unspecified bit positions to increase fault detection for the purposes of compaction is a deterministic non-random method for filling unspecified values with non-randomly deterministically generated bit values, hence is a non-random filling method.

In addition, where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term “non-random filling methodology” in claim 1 means exactly that a non-random method for filling (e.g., a non-random method for filling unspecified values).

The Examiner has provided a prior art teaching reference in the art of automatic test pattern generation (ATPG) in the Advisory Action of Paper No. 16 (Rajski, US 6662327 B1) which explicitly teaches the use of the term “filling” in the context of assigning unspecified bit values during compaction. The Examiner recaps:

MPEP § 2131.01(III) “To serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled with recourse to extrinsic evidence. Such evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so

recognized by persons of ordinary skill.” Continental Can Co. USA v. Monsanto Co., 948 F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991).

The Examiner introduces Rajski (US 6662327 B1) as a teaching reference on the use of ‘filling’ as used by one of ordinary skill in the art at the time the invention was made.

Col. 4, lines 55-59 of Rajski explicitly teaches, “**filling** one or more don't care bit positions of the selected test pattern with bit values computed from the unselected test patterns to determine the test pattern” [Emphasis Added] refers to a step in the compaction of a test vector whereby don't care values are assigned bit values computed from an unselected test pattern; hence Rajski explicitly teaches that filling is used in the art to refer to deterministically assigning bit values to don't care values computed from an unselected test pattern. Hence Chakradhar teaches filling unspecified values with non-random values since Chakradhar teaches deterministically assigning bit values to don't care values computed from an unselected test pattern.

Furthermore the Examiner has searched the entire USPTO database, various technical dictionaries such as the Authoritative Dictionary of IEEE Standards Terms, has even performed a Google search for the term “non-random filling methodology”. Nowhere is the term specified in the apparent narrow manner that the Applicant wants it to be interpreted. The Examiner would like to point out that the Applicant has not provided a definition for the term “non-random filling methodology” in any of the Applicant's responses to previous Office Actions and has only stated that the Examiner is not interpreting “non-random filling methodology” in the manner that the Applicant desires.

If the Applicant continues with that line of reasoning, the Examiner requests and requires the Applicant's definition of "non-random filling methodology" in writing in the Applicant's response to the current Office Action

The Examiner recaps:

Chakradhar explicitly teaches a "The main loop in dynamic compaction methods consists of the following two steps: (1) generate a test sequence for a target fault, and (2) extend the test sequence by suitably specifying unspecified primary inputs in the test sequence. By suitably assigning values to unspecified primary inputs, several other faults can be detected by the test sequence." (col. 19, lines 45-50). Hence Chakradhar explicitly teaches a deterministic method for specifying unspecified values in the test sequence for the purposes of compacting test sets by "setting the values of a plurality of the unspecified bit positions" to values whereby other faults can be detected, hence Chakradhar explicitly teaches filling "a plurality of the unspecified bit positions" with specific values to detect additional faults. The method that Chakradhar uses for filling "a plurality of the unspecified bit positions" with specific values to detect additional faults is a non-random determinist methodology for filling "a plurality of the unspecified bit positions" with specific values to detect additional faults, hence is a non-random filling methodology. The Examiner asserts that Chakradhar explicitly teaches, "setting the values of a plurality of the unspecified bit positions using a non-random filling methodology".

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The Examiner disagrees with the applicant and maintains all Prior Art rejections of previously examined claims 1-22. All amendments and arguments by the applicant have been considered. It is the Examiner's conclusion that previously examined claims 1-22 are not patentably distinct or non-obvious over the prior art of record in view of the reference, Chakradhar, Srimat T. et al. (US 5726996 A) as applied in the last Office Actions, Paper Nos. 12 and 14. Therefore, the rejection is maintained.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 6-11, 14 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Chakradhar, Srimat T. et al. (US 5726996 A, hereafter referred to as Chakradhar).

35 U.S.C. 102(b) rejection of claims 1, 8-11 and 14.

See Paper No. 12 for detailed action of prior rejections.

35 U.S.C. 102(b) rejection of claim 6.

See Paper No. 14 for detailed action of prior rejections.

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35 U.S.C. 102(b) rejection of claim 7.

See Paper No. 14 for detailed action of prior rejections.

35 U.S.C. 102(b) rejection of claim 21.

See Paper No. 14 for detailed action of prior rejections.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 2-5, 12, 13, 15-20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakradhar, Srimat T. et al. (US 5726996 A, hereafter referred to as Chakradhar).

35 U.S.C. 103(a) rejection of claims 2-5, 12, 13 and 15-19.



See Paper No. 12 for detailed action of prior rejections.

35 U.S.C. 103(a) rejection of claim 20.

See Paper No. 14 for detailed action of prior rejections.

35 U.S.C. 103(a) rejection of claim 22.

See Paper No. 14 for detailed action of prior rejections.

### ***Conclusion***

4. This is an RCE of applicant's earlier Application No. 09/589338. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

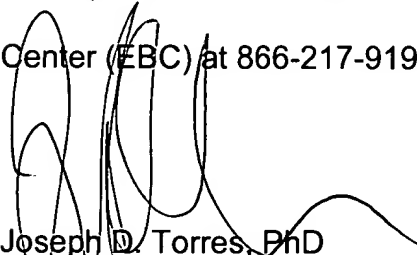
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the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

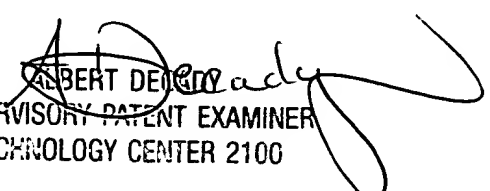
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (703) 308-7066. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (703) 305-9595. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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